

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A substrate processing apparatus for spraying gas onto a substrate completely cleaned with deionized water for drying said substrate, comprising:

a rotation element rotating said substrate substantially in a horizontal plane;

a first gas discharge element ~~coupled to a source of said gas~~ for spraying ~~said gas~~ an inert gas in substantially a single gas phase onto the surface of said substrate which is wet with said deionized water; ~~and~~

a second gas discharge element ~~coupled to said source of said gas, and a control to cause further spraying of said gas~~ for further spraying said inert gas in substantially a single gas phase onto the same region as the region previously sprayed with said gas by said first gas discharge element, said first gas discharge element and said second gas discharge element being arranged in such positions that respective flows of said inert gas from said first gas discharge element and said second gas discharge element do not interfere with each other;

a moving control element for moving said first gas discharge element and said second gas discharge element so that arrival points of said inert gas discharged from the respective ones of said first gas discharge element and said second gas discharge element draw loci directed from a rotation center of said substrate rotated by said rotation element toward an edge; and

a discharge control element for controlling discharge of said inert gas from said first gas discharge element and said second gas discharge element so that said second gas discharge element starts discharge of said inert gas while said first gas discharge element which has already started discharge of said inert gas is moved from said rotation center toward said edge, said discharge control element further controlling discharge of said inert gas from said first gas discharge element and said second gas discharge element so that a flow rate of said inert gas sprayed from said second gas discharge element onto said substrate is higher than a flow rate of said inert gas sprayed from said first gas discharge element.

2. (Canceled)

3. (Withdrawn) The substrate processing apparatus according to claim 2, further comprising a rotation element rotating said substrate substantially in a horizontal plane, wherein, said first gas discharge element comprises:
a first nozzle discharging said gas, and
a first nozzle moving element moving said first nozzle substantially in a horizontal plane,
said second gas discharge element comprises:
a second nozzle discharging said gas, and
a second nozzle moving element moving said nozzle substantially in a horizontal plane,
and

said first nozzle moving element and said second nozzle moving element move the respective ones of said first nozzle and said second nozzle so that arrival points of said gas discharged from the respective ones of said first nozzle and said second nozzle draw loci directed from the rotation center of rotated said substrate toward the edge.

4. (Withdrawn) The substrate processing apparatus according to claim 3, wherein said gas is inert gas.

5. (Currently Amended) A substrate processing apparatus spraying gas to a substrate completely cleaned with deionized water for drying said substrate, comprising:
a rotation element rotating said substrate substantially in a horizontal plane;
a first nozzle spraying ~~said gas~~ an inert gas in substantially a single gas phase to the surface of said substrate wet with said deionized water;
a second nozzle spraying ~~said gas~~ said inert gas in substantially a single gas phase to the surface of said substrate;
a nozzle arm fixedly provided with said first nozzle and said second nozzle, said first nozzle and said second nozzle being spaced apart from each other so that respective flows of said inert gas from said first nozzle and said second nozzle do not interfere with each other;

a moving element moving said nozzle arm in a plane substantially parallel to said substrate; [[and]]

a moving control element controlling said moving element to move said nozzle arm so that arrival points of said inert gas discharged from the respective ones of said first nozzle and said second nozzle draw loci directed from a rotation center of said substrate rotated by said rotation element toward an edge, thereby spraying said inert gas from said second nozzle to the same region on said substrate once having been sprayed with said inert gas by first said nozzle; and

a discharge control element for controlling discharge of said inert gas from said first nozzle and said second nozzle so that a flow rate of said inert gas sprayed from said second nozzle onto said substrate is higher than a flow rate of said inert gas sprayed from said first nozzle.

~~a rotation element rotating said substrate substantially in a horizontal plane, wherein said moving element moves said nozzle arm substantially in a horizontal plane so that arrival points of said gas discharged from the respective ones of said first nozzle and said second nozzle draw loci directed from the rotation center of the rotated substrate toward the edge, thereby spraying said gas from said second nozzle to the same region as the region on said substrate once having been sprayed with said gas by said first nozzle.~~

6. - 8. (Canceled)

9. (Withdrawn) A substrate processing apparatus spraying gas to a substrate completely cleaned with deionized water for drying said substrate, comprising:

a nozzle spraying said gas to the surface of said substrate wet with said deionized water;

a nozzle arm fixedly provided with said nozzle; and

a moving element moving said nozzle arm in a plane substantially parallel to said substrate, wherein

said moving element moves said nozzle arm to re-spray said gas by said nozzle to the same region as the region on said substrate sprayed with gas by said nozzle.

10. (Withdrawn) The substrate processing apparatus according to claim 9, wherein the flow rate of said gas re-sprayed from said nozzle to said substrate is larger than the flow rate of said gas precedently sprayed from said nozzle to said substrate.

11. (Withdrawn) The substrate processing apparatus according to claim 10, further comprising a rotation element rotating said substrate substantially in a horizontal plane, wherein said moving element moves said nozzle arm substantially in a horizontal plane so that arrival points of said gas precedently and subsequently discharged from said nozzle draw loci directed from the rotation center of rotated said substrate toward the edge.

12. (Withdrawn) The substrate processing apparatus according to claim 11, wherein
said gas is inert gas.

13. (Withdrawn) A substrate processing method spraying gas to a substrate completely cleaned with deionized water for drying said substrate, comprising steps of:
a) spraying said gas to the surface of said substrate wet with said deionized water; and
b) further spraying said gas to the same region as the region on said substrate already sprayed with said gas in said step a).

14. (Withdrawn) The substrate processing method according to claim 13, wherein the flow rate of said gas sprayed to said substrate in said step b) is larger than the flow rate of said gas sprayed to said substrate in said step a).

15. (Withdrawn) The substrate processing method according to claim 14, wherein said gas is inert gas.